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2,493,978

COLLAPSIBLE STAND FOR BUMPER JACKS

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Fig. 1

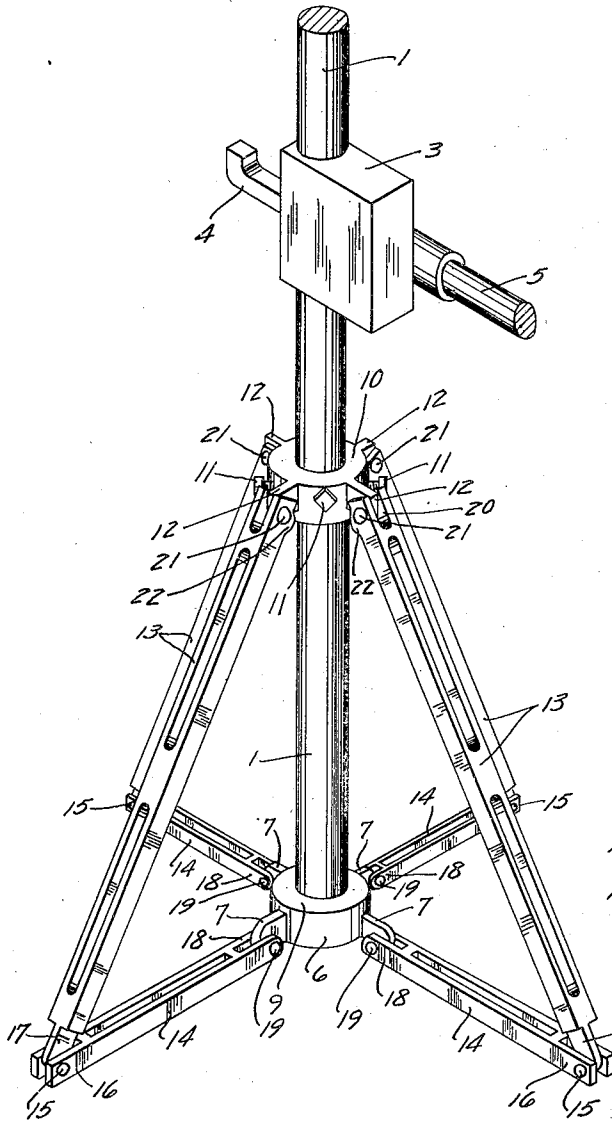


Fig. 2

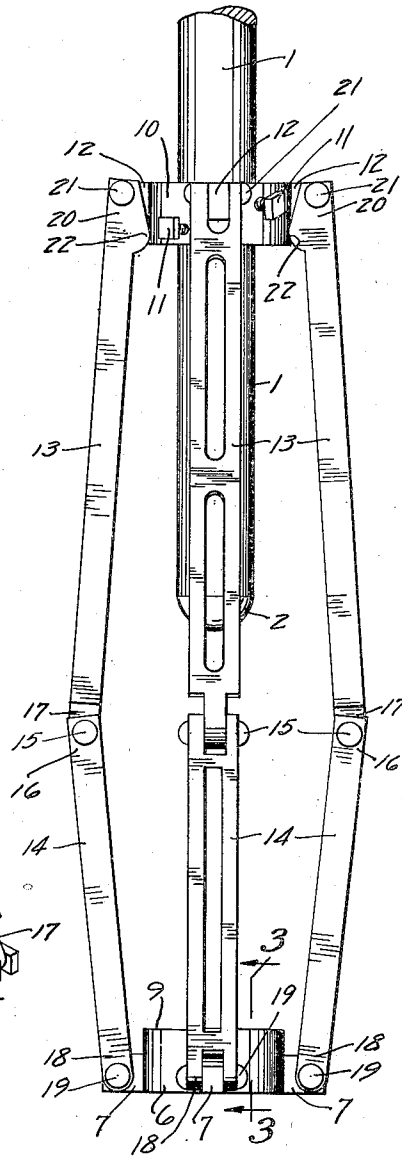
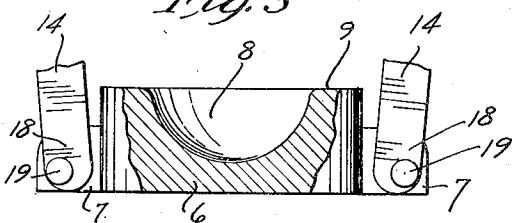


Fig. 3



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COLLAPSIBLE STAND FOR BUMPER JACKS

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1 Claim. (Cl. 248—166)

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My invention relates to improvements in lifting jacks, and more particularly to that type of lifting jack involving a relatively long post-like supporting member having a lifting head mounted for longitudinal traveling movements thereon; this type of lifting jack being most prevalent in the automotive industry, where they are generally referred to as "bumper jacks" for the reason that they are designed to engage the bumper of an automobile to lift the same.

More specifically stated, it is an object of the present invention to provide in connection with lifting jack structures of the kind described, a collapsible standard therefor.

The so-called "bumper" type of jacks have the advantage over the old-style jack which was customarily inserted under the axle of the vehicle, in that it is much more easily placed in and removed from operative lifting relation to the vehicle; but have the disadvantage of being relatively very long and heretofore have been hazardous to use due to the absence of a firm and wide-based support to brace the same against tipping movements. In accordance with the present invention, I provide a collapsible standard for jacks of this type which forms a very wide and very firm base of support for the jack when in operative position, and which occupies a minimum of space when collapsed. Furthermore, my improved standard is so constructed that it may be moved from operative to inoperative position with a minimum of effort on the part of the operator.

The above and other highly important objects and advantages of the invention will be made apparent from the following specification, claim and appended drawings.

In the drawings, like characters indicate like parts throughout the several views.

Referring to the drawings:

Fig. 1 is a perspective view of a bumper jack incorporating my invention, some parts being broken away;

Fig. 2 is a side elevational view of the structure shown in Fig. 1, but illustrating a different position of the parts thereof, some parts being broken away; and

Fig. 3 is an enlarged fragmentary sectional view taken substantially on the line 3—3 of Fig. 2.

In the drawings hereof, the standard of my invention is shown as being applied to a conventional type of bumper jack comprising a post-like supporting member or element 1 having a semi-spherical bottom portion 2, and a lifting head 3 mounted for longitudinal traveling move-

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ments on the upper and intermediate portions of the post-like member 1. Internal details of the head 3 are not shown, since it is conventional and may take various different forms. However, attention is called to the fact that the conventional lifting head 3 is provided with the usual hook-like lifting element 4 for engagement with an automobile bumper or the like, and is also provided with the usual pivoted operating lever or handle 5.

A base member 6, shown as being circular in cross-section and having a plurality of radially-projecting circumferentially-spaced ears 7, has a central semi-spherical socket 8 in its upper surface 9 which is of a size to snugly receive the semi-spherical bottom portion 2 of supporting member 1. A flange or collar 10 is rigidly secured by means of bolts 11 to the supporting post 1 at a point remote from the end 2 thereof, but below the upper portion on which the head 3 is mounted for longitudinal movements. Collar 10 also has a plurality of radially-projecting circumferentially-spaced ears 12, each one of which is in vertical alignment with one of the ears 7 on base member 6.

A plurality of identical upper arms 13, and a plurality of lower arms 14 are shown as being pivotally connected together by pivot pins 15, which extend through bifurcated end 16 of arm 14 and depending tongues 17 of arms 13. The opposite ends 18 of arms 14 are bifurcated to receive ears 7 projecting from base member 6 and are pivotally secured thereto by means of pivot pins 19. The upper ends of arms 13 are also bifurcated as indicated at 20 to receive the ears 12, which project from collar 10 and are pivotally connected thereto by means of pivot pins 21. Arms 13, adjacent their upper ends 20, are provided with inwardly-projecting stop lugs 22, the purpose of which will hereinafter become apparent.

Operation

It should be obvious that, because of the pivotal connections of cooperating arms 13 and 14 with each other and of said arms to the collar 10 and base member 6, that the said cooperating arms will be extended, under the action of gravity, from the load supporting position, shown in Fig. 1, to the position shown in Fig. 2, by merely lifting upwardly upon the supporting member 1. The position indicated in Fig. 2 is ideal for storage and the like. It is also important to note that when the arms 13 and 14 are so elongated, under the action of gravity, as indicated in Fig. 2, that

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the stop lugs 22 will engage the collar 10 just prior to the point where the arms 13 and 14 become aligned with each other, or, in other words, just prior to their reaching dead center. Therefore, when the jack structure is once again placed upon the ground, the arms 13 and 14 again, under the action of gravity, will collapse to the position shown in Fig. 1, in which position the semi-spherical lower end 2 of supporting post 1, will fit into the socket 8 of base member 6 where it will be retained against lateral movements.

Here it is important to note that the plane of the axis of the pivotal connections 21 between the upper ends of the arms 13 and the collar 10 are so spaced from the axis of the pivotal connections 19 of the lower arms 14 and the base member 6 that the lower arms 14 will be extended perpendicular to the supporting post 1 when the lower end 2 thereof is seated in the socket 8 of the base 6.

What I claim is:

A standard for jacks which comprises an upright supporting post having a rounded lower end, a collar anchored to the post substantially above said lower end, a separate base member having an upwardly opening socket for freely receiving and

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supporting said lower end of the post, a series of upper arms disposed circumferentially about the post and having corresponding ends thereof pivotally connected to the collar, a second series of lower arms vertically aligned with and having corresponding ends thereof pivotally connected to the opposite ends of the first series of arms, and the opposite ends of the second series of arms being pivotally connected to sides of the base member and supporting same from said collar, the connected arms providing for free gravity collapsing of the arms carrying the base member beyond the end of the post and for seating of the base member on the rounded lower end of the post when the standard is in operative position.

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The following references are of record in the file of this patent:

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